I claim:

1. A method of inhibiting cell growth comprising introducing into a cell an effective amount of one or more agnoproteins, or one or more biologically active fragments or derivatives of agnoprotein, such that growth of the cell is inhibited.

2. The method of claim 1, wherein the cells are abnormally proliferating cells.

3. The method of claim 2, wherein the abnormally proliferating cells are cancer cells.

4. The method of claim 2, wherein the abnormally proliferating cells are fibroblasts.

5. The method of claim 1 wherein the agnoprotein comprises a JCV agnoprotein.

6. The method of claim 1, wherein the JCV agnoprotein is selected from the group consisting of SEQ ID NO: 1; SEQ ID NO: 3; SEQ ID NO: 4; SEQ ID NO: 5; SEQ ID NO: 6; and SEQ ID NO: 7.

7. The method of claim 1 wherein the agnoprotein comprises a protein having the amino acid sequence:

M-V-L-R-Q-L-S-R-K-A-S-V-K-V-S-K-T-W-S-G-T-K-K-R-A-Q-R-I-L-I-F-L-L-E-F-L-L-D-F-C-T-G-E-D-X_1-V-D-G-K-K-R-Q-X_2-H-X_3-X_4-X_5-X_6-X_7-X_8-X_9-X_{10}-X_{11}-A-L-P-E-P-K-A-X_{12}

wherein X_1 is serine or arginine;
X_2 is lysine or arginine;
X_3 is serine or arginine;
X_4 is glycine or no amino acid;
X_5 is leucine or no amino acid;
X_6 is threonine or no amino acid;
X_7 is glutamine, glutamic acid, or no amino acid;
X_8 is glutamine or no amino acid;
X_9 is threonine, arginine, lysine or no amino acid;
X_{10} is tyrosine or no amino acid;
X_{11} is serine or glycine; and
X_{12} is threonine or lysine.

8. The method of claim 1 wherein the agnoprotein comprises BK virus agnoprotein or SV40 agnoprotein.

9. The method of claim 8, wherein the BK virus agnoprotein is selected from the group consisting of SEQ ID NO: 14 and SEQ ID NO: 15.

10. The method of claim 8, wherein the SV40 agnoprotein comprises SEQ ID NO: 17.

11. The method of claim 1, wherein the agnoprotein derivative comprises SEQ ID NO: 22.

12. A method of treating a subject having a cancer or non-cancerous proliferative disorder, comprising administering to the subject an effective amount of one or more agnoproteins, or one or more biologically active fragments or derivatives of agnoprotein, such that growth of the cells deriving from the cancer or non-cancerous cells is inhibited.

13. The method of claim 12, wherein the subject has cancer.

14. The method of claim 13, wherein the cancer is selected from the group consisting of: sarcoma; melanoma; carcinoma; adenocarcinoma; glioma; glioblastoma; astrocytoma; leukemia; and lymphoma.

15. The method of claim 13, wherein the cancer has its origin in organs or tissues selected from the group consisting of: breast; tissues of the male and female urogenital system; lung; tissues of the gastrointestinal system; pancreas; adrenals; tissues of the mouth and esophagus; brain and spinal cord; kidney; liver; gall bladder; lymphatic system; smooth and striated muscle; bone and bone marrow; skin; and tissues of the eye.

16. The method of claim 12, wherein subject has a non-cancerous proliferative disorder.

17. The method of claim 16, wherein the non-cancerous proliferative disorder is selected from the group consisting of: non-cancerous proliferative disorders involving uncontrolled growth of fibroblasts; hemangiomatosis in newborn; secondary progressive multiple sclerosis; chronic progressive myelodegenerative disease; neurofibromatosis; ganglioneuromatosis; keloid formation; Paget's Disease of the bone; fibrocystic disease; sarcoidosis; Peronies fibrosis; Duputren's fibrosis, cirrhosis, atherosclerosis and vascular restenosis.

18. The method of claim 12, wherein the one or more agnoproteins, or the one or more biologically active fragments or derivatives of agnoprotein, is administered by direct injection into a tissue comprising the cells deriving from a cancer or a non-cancerous proliferative disorder.

19. The method of claim 12, wherein the agnoprotein comprises a JCV agnoprotein.

20. The method of claim 12, wherein the JCV agnoprotein is selected from the group consisting of SEQ ID NO: 1; SEQ ID NO: 3; SEQ ID NO: 4; SEQ ID NO: 5; SEQ ID NO: 6 and SEQ ID NO: 7.

21. The method of claim 12 wherein the agnoprotein comprises a protein having the amino acid sequence:

M-V-L-R-Q-L-S-R-K-A-S-V-K-V-S-K-T-W-S-G-T-K-K-R-A-Q-R-I-L-I-F-L-L-E-F-L-L-D-F-C-T-G-E-D-X_1-V-D-G-K-K-R-Q-X_2-H-X_3-X_4-X_5-X_6-X_7-X_8-X_9-X_{10}-X_{11}-A-L-P-E-P-K-A-X_{12}

wherein X_1 is serine or arginine;
X_2 is lysine or arginine;
X_3 is serine or arginine;
X_4 is glycine or no amino acid;
X_5 is leucine or no amino acid;
X_6 is threonine or no amino acid;
X_7 is glutamine, glutamic acid, or no amino acid;
X_8 is glutamine or no amino acid;
X_9 is threonine, arginine, lysine or no amino acid;
X_{10} is tyrosine or no amino acid;
X_{11} is serine or glycine; and
X_{12} is threonine or lysine.

22. The method of claim 12 wherein the agnoprotein comprises a BK virus agnoprotein or SV40 agnoprotein.

23. The method of claim 22, wherein the BK virus agnoprotein is selected from the group consisting of SEQ ID NO: 14 and SEQ ID NO: 15.

24. The method of claim 22, wherein the SV40 agnoprotein comprises SEQ ID NO: 17.

25. The method of claim 12, wherein the agnoprotein derivative comprises SEQ ID NO: 22.

26. A pharmaceutical composition comprising agnoprotein, or a biologically active fragment or derivative of agnoprotein and a pharmaceutically acceptable carrier.

27. A pharmaceutical composition comprising a nucleic acid sequence encoding agnoprotein, or a biologically active fragment or derivative of agnoprotein, and a pharmaceutically acceptable carrier.